REMARKS/ARGUMENTS

The Office Action mailed October 2, 2007, has been received and its contents carefully considered. Reconsideration and withdrawal of the outstanding rejections are respectfully requested in view of the foregoing amendments and the following remarks.

In the Office Action mailed October 2, 2007, claims 1-73 stand rejected. Applicants have thoroughly reviewed the outstanding Office Action including the Examiner's remarks and the references cited therein. The following remarks are believed to be fully responsive to the Office Action. All the pending claims at issue are believed to be patentable.

Claims 1, 10, 11, 18, 27, 28, 35, 36, 44, 45, 52, 53, 61, 66, 70, 71, and 73 are amended in several particulars for purposes of clarity in accordance with current Office policy, to assist the examiner and to expedite compact prosecution of this application. As such, claims 1-73 remain pending.

The amendments made to the claims incorporate the language of claims 70, 72 and 73 that have already been considered. Therefore, there should be no new issues needing search as they have already been considered.

CLAIM OBJECTIONS

The Examiner objected to claim 71 and an amendment was made accordingly.

CLAIM REJECTION – 35 U.S.C. § 101

Claims 27-34 and 61-68 were rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 27and 61 have been amended accordingly. The claims relate to the manufacture of a vehicle. Further, as mentioned in the final version of the examination

guidelines for computer related inventions as mentioned in the Federal Register for February 28, 1996, such claims are clearly statutory as they are not only recorded on a computer readable media, but they relate to a manufacture of a statutory subject matter.

CLAIM REJECTION – 35 U.S.C. § 102(e)

Claims 10-14, 18-23, 27-31, and 44-48 were rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Application Publication 2004/0010398 to Noma, et al. (Noma). Applicants respectfully traverse said rejection.

No claim is anticipated under 35 U.S.C. §102 (b) unless all of the elements are found in exactly the same situation and united in the same way in a single prior art reference. As mentioned in the **MPEP §2131**, "a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Every element must be literally present, arranged as in the claim. *Richardson v. Suzuki Motor Co.,* 868 F.2d 1226, 9 USPQ2d 1913, 1920 (CAFC 1989). The identical invention must be shown in as complete detail as is contained in the patent claim. *Id.*, "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson,* 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970), and MPEP 2143.03.

As to claim 10, the Examiner states that Noma discloses a computer-implemented system for designing an interior section of a passenger vehicle to accommodate objects for the interior section of the passenger vehicle (see paragraph [0005], lines 9-16), comprising a) a database comprising a digital definition of the interior section of the passenger vehicle and parameters related to the objects (see paragraph [0203]).

First, please note that Noma fails to disclose that all the interior objects are automatically checked and updated and in addition the certification and the clearances are checked. The references do not show that all the different objects are taken into account. It is not just the two objects involved, but all are automatically updated.

However, the digital definition and the database is not identically disclosed. The passage in paragraph 203 states that the program reads out the interior dimensions. However, there is no specific disclosure of a digital definition or even a database that has digital definitions of the interior section and the parameters related to the objects. Reading a value does not disclose that there is a database. A table is mentioned, but it is not a database as specifically and identically disclosed.

The Examiner states that Noma discloses b) a computer-aided design system configured to display a visual model of the interior section of the passenger vehicle (see paragraph [0075], last line).

However, the disclosure only states that there is a 3D image generation program, but there is no disclosure as to whether the interior section of the passenger vehicle is displayed.

The Examiner states that the Noma reference discloses user interface capable of receiving user input from a user reflecting a first change to the interior section of the passenger vehicle (see paragraph [0075], next to last line); d) a processor responsive to the user input by using said digital definition and said parameters to (i) determine whether a second change to the interior section of the passenger vehicle is necessary because of the first change to the interior section of the passenger vehicle, and (ii) execute the second change to the interior section of the passenger vehicle by updating said digital definition (see Fig. 26, item Nos. S14, S15, and S17).

However, the change is made manually as it states in paragraph 311, "It is confirmed with the user in step S14 if parameters must be input to or changed in the design table. If the

parameters need neither be input nor changed, the flow directly advances to step S17." Additionally, in paragraph 313, Noma states, "If the parameters must be input or changed, the flow advances to step S15 to launch the design table creation program, to open the selected table read out in step S13, and to input numerical values to the parameters."

Therefore, in Noma, a manual confirmation is made with a user with regard to changing the parameters unlike the present invention which automatically makes the change and automatically determines whether the change is necessary.

In addition, Noma only mentions the act of changing the table and then values are input into the design table. There is no disclosure of determining whether a second change to the interior is necessary, and whether to execute the second change to the interior section by updating the digital definition. The diagram in figure 26 only states whether there is a change in the parameter.

Noma fails to disclose the interrelationship of the first and second change as claimed by the present invention. Noma only stores the change but does not teach identically the relationship between the first and second changes.

The amendment to claim 1, 35, 52 and 61 is supported by the specification and the drawings in their entirety, including for example by the abstract, paragraph 6, etc.

As to claims 35, 52, and 61 please see the remarks above.

With regard to claims 2, 36, 53, and 62, the Examiner states that Noma discloses a system wherein said digital definition comprises a plurality of data objects representing different aspects of the interior/configurable space (see paragraph [0203]). Please see the remarks for claim 1.

As to claims 3, 37, 54, and 63, the Examiner states Noma discloses a system wherein a first one of said data objects contains information regarding a second data object representing an aspect of the interior/configurable space that has a relationship with an

aspect of the interior/configurable space represented by said first data object (see paragraph [0312]).

However, respectfully, paragraph 312 states "If the parameters must be input or changed, the flow advances to step S15 to launch the design table creation program, to open the selected table read out in step S13, and to input numerical values to the parameters." However, paragraph 312 is only stating that is parameters are changed, the parameters are input into the table. However, there is no disclosure at all in Noma concerning one of the data objects including information regarding a second data object. Furthermore, Noma does not disclose where the second data object represents an aspect of the interior/configurable space that has a relationship with an aspect of the interior/configurable space represented by said first data object. The database, such as the table may include the information for two different objects, but the data objects do not in themselves have the relationship between the two data objects. The mere entry of information in a database alone does not disclose the data aspects which represent the interior configurable space and there is no relationship between the two data objects being disclosed.

As to claims 4, 38, 55, and 64, the Examiner states that Noma discloses a system wherein said processor is capable of modifying said second data object in response to a change made by the system to said first data object, and said processor uses said information regarding said second data object to determine whether said second data object should be modified (see paragraph [0313]).

However, paragraph 313 only states the model being selected where it is one or a combination of a reference model, exterior model, and structure model. However, there is no disclosure as to the relationship between a first and second object, especially where the system modifies the second data object based on the change to first data object.

As to claims 5, 39, 56, and 65, the Examiner states that Noma discloses a system wherein each of said data objects has one of a plurality of types, and a first of said types represents a first portion of the vehicle/configurable space that is fully contained within a second portion of the vehicle/configurable space represented by a second of said types (see paragraphs [0317] and [0318]).

Please see the remarks above for claims 1.

As to claims 6, 40, and 57, the Examiner states that Noma discloses a system wherein said processor is capable of responding to a change to a data object having said first type and said processor is capable of responding to a change to a data object having said second type (see paragraphs [0317] and [0318]).

Please see the remarks above for claims 1.

As to claims 10-14 and 27-31, the Examiner states that these claims recite a method and a computer-readable medium comprising code capable of instructing a computer to perform a method performed by the system of claims 1-5. The Examiner states that Noma discloses a method (see paragraph [0001]) performed by the system that anticipates claims 1-5. Therefore, the Examiner states that claims 10-14 and 27-31 are rejected for the same reasons given above.

Please see the remarks for claims 1-5 above.

As to claims 18-23, the Examiner states that these claims recite a method performed by the system of claims 1-6; Noma discloses a method (see paragraph [0001]) performed by the system that anticipates claims 1-6; therefore, claims 18-23 are rejected for the same reasons given above.

However, please see the remarks to claim 1.

As to claims 44-48, these claims recite a method performed by the system of claims 35-39; Noma discloses a method (see paragraph [0001]) performed by the system that anticipates claims 35-39; and therefore, claims 44-48 are rejected for the same reasons given above.

However, please see the remarks to claim 1.

With regard to claim 69, respectfully, Noma is restricted to automobile design and the present claimed invention relates to an airplane design.

The present invention, unlike Noma, fully automates the technique of arranging interior components while checking clearances and certification requirements for the entire interior whenever a change is made. Claim 73 claims such a limitation and is supported by the drawings and specification in their entirety. Noma does not show full automation for all aspects as it needs certain manual inputs and changes.

CLAIM REJECTION – 35 U.S.C. § 103(a)

A. Claims 1-7, 15, 24, 32, 35-41, 49, 52-58, 61-66, 69, and 71-73 were rejected under 35 U.S.C. 103(a) as being unpatentable over Noma as applied to claim 44 above, taken in view of U.S. Patent Publication 2002/0026296 to Lohmann et al. (Lohmann). Applicants respectfully traverse said rejection.

According to MPEP 706.02(j), the following establishes a prima facie case of obviousness under 35 U.S.C. §103:

> To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined)

> must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

With regard to claim 1, first, please note that the zones and hierarchical relationship of the digital definitions are not disclosed in Noma. There is no such disclosure made. Lohman makes no such teaching either. All the references cited are unable to accommodate the sheer volume of data in an efficient manner as the present invention does. The invention breaks up the data into zones and hierarchy that accommodates fast processing and result while Noma and Lohmann do not.

The Examiner stated that Lohman teaches of automatically determining whether a change is made form a first and second digital definition, but it is clear that Lohhman is unable to process the entire set of definitions as the present invention can. The present claim states that the "entire interior" is checked when a change is made.

The examiner cited with regard to claim 73 which has been incorporated into the other claims, Lohman in paragraph 32. Paragraph 32 only states that components are configured automatically, but it does not state that the entire interior is affected. Further, the disclosure of Lohman teaches away from this as it only affects between one definition and another and not all at once. The definitions are only looked at one at a time. For example, figure 1 is stated to show the automation, but as seen in block 3, a fixedly defined components are prescribed, then the A/C with specific additional customers are determined and in block 4, it generates component arrangements, an example of passenger service units in the service channel is given as an example, but it does not state that all the objects are affected and taken into account. There is also no disclosure as to certification requirements.

With regard to the hierarchy and the zones, the Examiner with regard to limitation 71 which has been incorporated into additional claims, the Examiner stated that Weber makes such a teaching. However, Weber in col. 6 only mentions in passing that occupant reach may be determined by zones in addition to other variables. However, the claim teaches of arranging the vehicle in zones and the zones are in a hierarchy. There is not particular disclosure as to either.

With regard to the limitation of Sequencing every object having a zone, taken from claim 72, the Examiner stated that Lohman on paragraph 32 makes such a teaching. However, Lohman does not teach zones and cannot then teach of sequencing the objects in the zone. Weber, as mentioned above, only mentioned zone in passing without further description. Lohman in paragraph 32 makes no disclosure at all to the sequencing objects with a zone and Weber makes no connection as such.

As to claims 8, 42, 59, and 67, the Examiner states that while Noma discloses designing an interior section of a passenger vehicle to accommodate objects for the interior section of the passenger vehicle, Noma fails to disclose determining the maximum number of seats that can fit in a section of the interior/configurable space.

The Examiner, however, states that Brauer discloses a system further comprising a means for determining the maximum number of seats that can fit in a section of the interior/configurable space, based on said parameters and the location of other objects in the interior (see claim 13).

However, the combination of the references still does not teach or suggest the interrelationship of the first and second changes and the automation.

In addition, Brauer discloses a technique for connecting perceived seat comfort at certain load factors with a specific seat/aisle configuration as seen in a twin aisle aircraft.

B. Claims 8, 9, 16, 17, 25, 26, 33, 34, 42, 43, 50, 51, 59, 60, 67, and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noma taken in view of Lohmann as applied to claims 1, 10, 18, 27, 35, 44, 52, and 61 above, and further in view of U.S. Patent 5,611,503 to Robert Brauer (Brauer). The Applicants respectfully traverse.

As to claims 7, 41, 58, and 66, the Examiner states that while Noma discloses designing an interior section of a passenger vehicle to accommodate objects for the interior section of the passenger vehicle, Noma fails to disclose exporting a portion of the contents of said database in a format that can be used with/by a computer-aided design system different from said computer aided design system of said system.

On the other hand, the Examiner states that Lohmann discloses a system further comprising a means for exporting a portion of the contents of said database in a format that can be used with/by a computer-aided design system different from said computer aided design system of said system (see paragraph [0030], lines 1-12).

However, respectfully, Lohhmann fails to teach or suggest exporting a portion of the contents to a different computer-aided design system as claimed in the present invention. Lohhmann, however teaches of storing the information in a database where modules have two way access, which is not teaching or suggesting of exporting a portion of the database in a format for a different computer system.

As to claims 15, 24, and 32, and 49, please see the remarks for claim 7.

With regard to the vehicle hierarchy, breaking airplane spaces hierarchical from service section to service entity level and seating section to seating entity level. Lohmann does not have the zone hierarchy. Claim 70, as supported by all of the

drawings and the specification in its entirety, including paragraph 28 and figure 2, shows that the zones are arranged in a hierarchy wherein each zone represents a smaller portion of the vehicle, and there can be one or more smaller zone inside a larger zone. However, Lohmann and the combination of Lohmann fail to teach or suggest such a limitation of zone hierarchy.

With regard to relational design, for persistency, the present invention saves relationships between all monuments and seats. However, Lohmann and the combination of the references fail to save the location information as claimed. Claim 71 claims such a limitation and is supported by the disclosure of the present invention.

Further, concerning the airplane placing sequence, the object placing sequence is included in the present invention to fully automate LOPA creation. However, the combined reference fails to provide full automation as seen in the present invention. Claim 72 includes such a feature and is supported by the whole disclosure including for example paragraph 24.

The present invention, unlike all the cited references and their combination, fully automates the technique of arranging interior components while checking clearances and certification requirements for the entire interior whenever a change is made. Claim 73 claims such a limitation and is supported by the drawings and specification in their entirety.

C. Claim 70 was rejected under 35 U.S.C. 103(a) as being unpatentable over Noma taken in view of Lohmann as applied to claim 7 above, and further in view of U.S. Patent 6,113,644 to Weber et al. (Weber). Applicants respectfully traverse said rejection.

With regard to claim 70, the examiner cites Weber , US 6,113,644 in addition to the other references cited, but Weber does not teach sectioning the zones of the digital definitions or for the benefit of the objects involved. As seen in col. 6, Weber only mentions the term zones, but the zones are not related to the information being divided as in the present

invention. Further, it not just the zones, but the zones are arranged in an hierarchy. There is not teaching at all of placing the zones in a certain hierarchy, and also of having smaller zones within larger zones.

CONCLUSION

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. If it is believed that the application is not in condition for allowance, the Examiner is requested to contact the undersigned attorney if it is believed that such contact will expedite the prosecution of the application.

In the event this paper is not timely filed, Applicant petitions for an appropriate extension of time. Please charge any fee deficiencies or credit any overpayments to Deposit Account No. 50-2036 with reference to Attorney Docket No. 5165.1400.

Respectfully submitted,

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